TELEFLEX INCORPORATED

Financial Review: Spring 1967

prepared by

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TELEFLEX INCORPORATED

(Traded: ASE)

(Symbol: TFX)

PRICE RANGE, 1966-67: 12-1/2 - 32-1/2

RECENT PRICE: 31-3/4

INDICATED DIVIDEND: 40¢

INDICATED YIELD: 1.3%

PER SHARE EARNINGS, 1966: $1.44

P/E RATIO ON 1966 NET: 22

CAPITALIZATION AT 3/31/67:
420,369 common shares outstanding

CONTENTS: PAGE:

SUMMARY

Teleflex is one of the pioneer developers and a leading manufacturer in the field of mechanical and electromechanical control systems for commercial and military aerospace, marine, automotive and industrial applications.

While the company's products are based on the familiar principle of the automobile "choke" cable, push-pull device, Teleflex engineering has brought the concept to an advanced level of sophistication. By capitalizing on the fundamental advantages of high reliability, extreme durability, low weight and low cost, the company has won problem-solving tasks where other Electronics-Age methods have fallen short.

This specialization has earned Teleflex an expanding reputation in varied markets, and has spurred a growth rate that enabled sales to double in the past four years. In the same period, earnings rose 69%.

After several non-recurring costs forced an earnings decline in 1965, results recovered well last year, with net rising 156% to record highs on a 39% increase in sales.

With market penetration continuing in its basic fields, and with a growing stake in the additional areas of high-performance pleasure boats and protective chemical compounds, the company appears headed for another record year and a strong growth trend beyond.

CURRENT OUTLOOK

Foremost among the factors that may influence Teleflex growth rate in the next five years are:

1. The demand for AIRCRAFT CONTROL SYSTEMS, generated by new aircraft production now forecast; and the company's exceptional position in that field..... see page 10

2. The growth rate of the U.S. PLEASURE BOAT MARKET, requiring a variety of steering control and engine control equipment; and Teleflex's new product development activity and strong distribution network in that field..... see page 15

3. The expansion of cable control applications in the AUTOMOTIVE INDUSTRY; and engineering advancements made by Teleflex for Detroit producers..... see page 21

4. The new uses found for cable control systems in a wide range of INDUSTRIAL APPLICATIONS, including farm equipment, machinery, window controls and other areas..... see page 28

5. The sizable potential of the company's SermeTel chemical compound development for use as a unique protective coating --proven on jet engines and now being studied for a variety of other industrial uses..... see page 29

PAST PERFORMANCE

OPERATING RESULTS:

Sales:

During the period 1962-1966, Teleflex sales volume virtually doubled rising to $14.8 million from $7.7 million in the base year.

Of that growth, a substantial proportion occurred in 1966, when volume rose more than 39% over 1965 levels. At December 31, 1966, sales backlog was $9,540,176 versus $5,052,858 one year prior.

Overwhelmingly, the greater portion of volume is derived from the sale of control systems for the aerospace, automotive and marine fields. This activity accounts currently for about 75% of total volume, management estimates. Of this portion, aerospace systems account for about half, and marine and automotive represent one quarter each.

The balance is composed of:

* Control systems and components for various industrial applications such as heavy machinery, tractors and buses -- an estimated 5% of volume.

* The sale of SermeTel chemical compounds -- estimated at 5% of volume.

* The sale of Donzi high-performance pleasure boat -- estimated at 15% of volume.

Although the company sells a substantial amount of products for military aerospace application, its dependence on the level of U.S. government defense budgeting is not the major factor in sales. Management estimates that 40% of total sales is derived from military budgets, or other government purchases.

Sales of products specifically designed for consumer use comprise 17% of volume. Sales to industry account for the balance, or 83% of company volume. Of this, almost 100% is sold as original equipment.

Pre-Tax Income:

Operating margins, before taxes, were 8.6% of sales in 1962. Subsequently, they slipped to 7.8%, 6.9% and then 4.2% in 1965.

Factors bearing upon this margin slippage in those years were:

* A massive diversification program, far beyond the company's traditional business of control systems manufacture; requiring large investments of time, personnel efforts, acquisition, consolidation and start-up costs.

* A major example was the 1965 acquisition of Donzi Marine.

* In addition, the company made consistent efforts to expand its line of control systems, such as the 1963 acquisition of Ongaro Dynamic Industries which added valuable instruments for both marine and automotive markets.

* A major, 12-week strike in 1965 at the aerospace division.

In 1966, the company evidenced that diversification costs were being efficiently controlled, and that a return to former margin levels was being accomplished. Operating margins that year rose to 7.8% of sales. Management estimates that there is further room for improvement of margins beyond that level.

Net Income:

Following the pattern set by the decline in operating margins, net margins declined from 4.6% of sales in 1962 to 2.2% in 1965. Last year, they returned to the 4.1% level.

Over the four-year span, total net income rose 69%, from $357,216 in 1962 to a record $606,509 in 1966.

After adjusting for a 25% stock dividend in January, 1967, earnings per share rose from 89¢ in 1962 to $1.44 last year.

For a closer comparison of recent earnings trends, the following quarterly income data is presented on a per share basis:
(All adjusted for 1/67 stock dividend).

	1967	1966	1965
FIRST QUARTER:	.45	.43	(.16) Def.
SECOND QUARTER:	-	.52	-
THIRD QUARTER:	-	.12	.18
FOURTH QUARTER:	-	.37	.55
FISCAL YEAR TOTAL:		$1.44	.57

Cash Flow:

Depreciation and amortization totaled $240,646 in 1966, a slight rise from $228,509 in the prior year.

Other sources of funds in the two years were, in addition to net income:

	1966	1965
Amortization of purchased development, patents and other assets charged to income:	$206,864	$ 66,795
Deferred taxes:	23,000	32,000
Net increase in long term borrowings:	453,991	312,852
Proceeds of stock options exercized:	35,100	

Common Shares Outstanding:

Teleflex has a total of 500,000 authorized, no par, common shares. Of these, there was a total of 420,369 outstanding at December 31, 1966, adjusted for a 25% stock dividend paid in January, 1967.

Return on Common Equity:

The per cent of earnings on a ratio to average shareholder equity declined from 12.9% in 1962 to 6.8% in 1965, as earnings in that year were sharply down from the prior year, while equity continued to build.

In 1966, however, a dramatic earnings recovery brought the return on equity ratio to a notable 15.2%.

TELEFLEX INCORPORATED

AND WHOLLY OWNED SUBSIDIARIES

Consolidated Statement of Income and Retained Earnings

	Year Ended December 31,	
	1966	1965
Net sales	$14,881,611	$10,676,826
Cost and expenses		
Materials, labor and other product costs	10,075,313	7,377,531
Depreciation and amortization	240,646	228,509
Engineering expenses	975,999	839,726
Selling, administrative and general expenses	2,243,890	1,644,228
Interest	183,354	134,265
	13,719,202	10,224,259
Income before taxes	1,162,409	452,567
Estimated taxes on income		
Current	532,900	184,000
Deferred federal income taxes	23,000	32,000
	555,900	216,000
Net income for the year	606,509	236,567
Retained earnings at beginning of year	2,112,960	2,009,711
Dividends		
Paid by issuance of 84,074 common shares	(908,000)	
Cash paid - $.32 per share	(133,918)	(133,318)
Retained earnings at end of year	$ 1,677,551	$ 2,112,960
Per share earnings	$1.44	$ .57

Per share earnings and dividends are based on the number of common shares outstanding at the end of each year, adjusted to reflect the 25% stock dividend of January 1967.

FINANCIAL POSITION:

Working Capital:

The company's working capital increased by $976,739 last year, improving the current ratio to a 2.5 level from a 1.9 proportion at the prior year-end.

From a total working fund source comprising $2,122,010 in 1966 and $1,092,723 in 1965, funds were applied as follows:

	1966	1965
Taxes on income:	$555,900	$216,000
Dividends paid:	133,918	133,318
Expenditures for land, buildings, machinery & equipment:	455,453	616,504
	$1,145,271	$965,822

Total working capital on December 31, 1966 was $3,511,348 versus $2,534,609 one year prior.

Fixed Assets:

After accumulated depreciation of $1,545,764, land, building, machinery and equipment were valued at $1,970,195 on last December 31.

At amortized cost, purchased development, patents, trademarks, etc. were valued at $139,309. Other assets were valued at $37,239.

Borrowings:

At December 31, the company's short term borrowings consisted of a 6-1/2% note of $975,000 secured by accounts receivable.

Long term borrowings, and current amounts due at December 31, were:

* A 5-3/4% note totaling $1,393,000; $214,000 as current liability.
* A 6% note, secured by mortgage, totaling $45,598; $5,405 current.
* A 6% installment obligation, under lease agreement, totaling $367,943; $44,604 current.

Total of above is equal to $2,781,541.

Total long term debt at December 31, was $1,542,532.

Shareholder Equity:

Total net worth has grown 44% since 1962, and was $3,997,533 on December 31.

Dividends:

The company's cash dividends remained level since the policy was initiated in 1963. As adjusted, they equalled 32¢ per share each year; however, in January, 1967, a 25% stock dividend was also paid and the present indicated dividend on the higher number of shares currently outstanding is 40¢.

For the year 1966, cash dividends represented 22% of net earnings.

Capital Expenditures:

The company currently estimates expenditures of $717,000 in fiscal 1967.

Total expenditures on research and development are forecast at $252,000 for this year, as compared with outlays of $207,000 in 1966.

COMPARATIVE OPERATING DATA:

	1966	1965	1964	1963	1962
Net sales	$14,881,611	$10,676,826	$9,479,655	$8,969,649	$7,739,895
Pre-tax income	1,162,409	452,567	655,713	700,149	667,952
Per cent to sales	7.8%	4.2%	6.9%	7.8%	8.6%
Income taxes	555,900	216,000	255,632	343,200	310,736
Net income	606,509	236,567	400,081	356,949	357,216
Per cent to sales	4.1%	2.2%	4.2%	4.0%	4.6%
Earnings per share *	1.44	57¢	96¢	86¢	89¢
Cash flow	1,045,812	527,916	614,754	613,998	600,463
Cash flow per share *	2.49	1.27	1.48	1.47	1.49
Return on common equity	15.2%	6.8%	11.8%	11.4%	12.9%
Shares outstanding *	420,369	416,619	416,619	416,619	401,619

COMPARATIVE YEAR-END POSITION:

Net working capital	$3,511,348	$ 2,534,609	$2,409,897	$2,338,727	$2,311,446
Current ratio	2.5	1.9	2.2	2.2	2.9
Total assets	8,008,324	7,488,930	6,205,348	5,994,426	4,507,332
Long term debt	1,542,532	1,088,541	755,689	908,004	505,000
Shareholders' equity	3,997,533	3,489,842	3,386,593	3,119,830	2,779,199
Book value per share *	9.51	8.38	8.13	7.49	6.92

*Based on number of shares outstanding at the end of each year adjusted to reflect the 25% stock dividend of January , 1967.

AEROSPACE OPERATIONS

THE MARKET FOR REMOTE CONTROL SYSTEMS:

Teleflex Incorporated has made significant contributions to the growth of the aerospace industry for nearly a quarter of a century. During this time, over 400 system combinations have been used to solve thousands of remote control problems on all types of aerospace, hydrospace and surface vehicles. Teleflex engineers created, designed, tested and proved every application, literally tailoring the system to meet requirements.

Basic Teleflex Control Systems generally use the unique flexible Teleflex Helix Wound Cable, operating within a casing, and connected to a variety of end fittings to suit customer requirements. Applying this principle, Teleflex Control Systems provide linear, angular, rotary motion in any combination and intermediate pick-offs, if desired. The basic cable, casing and control box combinations available provide for a wide range of performance loads and environments.

Today, as in the past, scientific and engineering excellence, combined with an aggressive long-range research and development program, enables Teleflex to anticipate industry needs for new and advanced remote control methods. A select group of Teleflex engineers is constantly researching the use of raw materials, studying methods for achieving weight reductions, extending system life and performing extensive functional and environmental tests in critical areas of military requirements.

As a result, control problems considered "unsolvable" only a few years ago, have been resolved in a corporate environment of total responsibility for designing and building the ultimate in high performance systems.

Teleflex Helix Wound Cable is the original cable of its kind. It provides, in a universal range of applications, a greater efficiency than any other encased control cable. The biggest factor behind its popularity is reliability itself. The basic simplicity of the remote mechanical control system -- no matter how sophisticated -- has proven to be an exceptional virtue where reliability is critical. To control an object with "failsafe" dependability, designers have agreed that a continuous, solid connection with that object has not yet been equalled.

Despite the magic of electronic controls, the ever-present possibility of electrical failure or jamming has prompted most designers to choose mechanical devices for hundreds of critical tasks throughout the aerospace field today. One large bomber, for example, may use as many as 17 separate cable control systems. In addition to control systems, Teleflex aerospace recently received a 3.8 million dollar contract for development of the cargo handling system for the world's largest aircraft, the C5A.

According to trade sources, the estimated current volume of cable control systems for original equipment in aerospace industries is $15,000,000, and including mechanisms is over $50,000,000. The market for remotely controlled devices and mechanisms is growing with each generation of bigger and higher performance aircraft.

The outlook for specific aircraft fields is as follows:

Military Aircraft:

For fiscal 1967, which began July 1, 1966, government defense spending was headed toward a possible rise of $8-10 billion over the prior year. About $18 billion of the total $70 billion spent by the Defense Department would apply toward further buildup of military aircraft capability with the purchase of new planes or modification. It appears that major programs utilizing Teleflex systems will continue at this rate through 1970.

Commercial Airlines:

Growing traffic is expected to boost commercial airlines above the 50 billion revenue-passenger mile level in 1967. Combined with air freight expansion, total revenues should pass the $3 billion mark.

The desire to support this growth with larger, faster aircraft has spurred many carriers to order the new equipment developed in the past five years by the major airframe producers. The airlines have currently placed orders for passenger jets totaling almost $7 billion. By year end 1966, Douglas' backlog on the DC 8 and the DC 9 was about $2.4 billion. Boeing reported that orders for its jet series 707 through 747 amounted to some $4.2 billion. The delivery on these orders will reach into the 1970's and will be a continual source of business for the myriad sub-contractors and components manufacturers. Still further down the road are the majority of the SST airliners, which should generate substantially greater volume in the years ahead.

Business/General Aviation:

Approximately 15,768 new aircraft were delivered for business and other private aviation purposes in 1966, versus 11,852 units in 1965, 9,336 in 1964 and 7,569 in 1963. An estimated $488 million was spent for new aircraft and modification, and this is forecast to rise another 12% in 1967.

Industry sources estimates that of some 390,000 companies that could theoretically afford to own an aircraft, only 8% actually do.

TELEFLEX COMPETITIVE POSITION:

Teleflex engineering of custom control systems to meet prime contractor needs has earned for the company an enviable reputation in the field. Today, Teleflex ranks in a leading position as a developer and supplier for applications that range from flight control to airframe and from engine control to cargo handling.

Its competition in this field is largely from other methods of control -- hydraulic, pneumatic, electric, rods and bell cranks, etc. No one company is considered a major competitor.

Products:

Some typical components that comprise a Teleflex remote control system are:

* PUSH-PULL CONTROLS:
  Non-locking, ratchet, turn-to-lock and detent types are available with an assortment of handles.

* TELEFLEX HELICAL CABLES:
  Teleflex Helical cables are manufactured to specific design requirements in order to provide flexibility, strength, maximum life and efficiency for a given system. This manufacturing versatility also provides efficient cost control for all systems.

  Teleflex Helical cables are the only cables of their kind. They provide less friction and greater efficiency than any other control cable. TELEFLEX M CABLE is designed for high column strength and offers maximum efficiency under high compression loads. It is especially adaptable to extreme requirements of temperature and loads for push-pull systems. TELEFLEX Y WIRE (pat. pending) is lightweight, inexpensive and highly efficient under normal tension and light compression loads. Numerous casing configurations are available.

* TELESCOPICS:
  Telescopic assemblies with swivel end fittings are used for applications with basic linear travel that require minor angular deflections.

* LINE MICRO-ADJUST:
  The line micro-adjust allows infinite adjustment to compensate for installation variables or rigging requirements.

* LINE QUICK DISCONNECT:
When it is necessary to allow for inspection or disconnection of an engine, or separation of sections, a quick disconnect is installed to make the break without complete re-rigging. It can be applied anywhere within a system for maintenance, installation or assembly convenience.

* CONTROL BOXES AND CABLES:
Teleflex control boxes and cables are available in numerous sizes and shapes for exacting specifications. The basic principle is the same -- Teleflex Helical cable meshes with the control box drive wheel to transfer linear motion to rotary motion. Different combinations of wheel teeth and cable size determine the linear-to-rotary travel ratio of the system and, in turn, afford extreme design flexibility for Teleflex engineers.

* ELECTRO-MECHANICAL CABLE:
Electrical lead cable is a hollow core Teleflex Helical cable which allows the placement of one or more electrical leads within the core. Electrical leads move with the cable. This electro-mechanical cable eliminates the necessity of installing separate external electrical wires.

* CASINGS:
When environment requires flexible stainless steel casing, Teleflex provides a high-load armored flex. For complete design versatility, it offers Teleflex Flexatrol. Plastic lining and outer coatings can be tailored to environmental requirements. Flexatrol is a durable, low-cost casing which can be used with plastic end fittings. Rigid casings are available for many different applications: Stainless steel casing with inorganic SermeTel coatings for high temperature applications; rigid aluminum or stainless steel casing with Teflon linings for high efficiency systems; and regular stainless steel or aluminum casing for standard applications.

To illustrate how these components are used as a system in a wide range of applications, the following are current cases where Teleflex engineering talents were called upon:

* The Project Mercury space capsule:
the manual backup system to control pitch, yaw and roll.

* Project Apollo space capsule:
emergency oxygen system control.

* USAF aircraft:
bomb bay releases...emergency canopy releases...cargo hook actuators for helicopters...variable nozzle systems ...emergency oxygen systems; as well as numerous control panel systems of a more standard nature.

* The General Sheridan Tank:
  throttle and shift controls.

* The Boeing 727:
  systems for emergency stabilizer...emergency oxygen ...facility controls...thrust reverser feedback.

* The Convair 880-990:
  systems for power control...fuel shut off...thrust reverse.

* Lockheed Jetstar C140:
  throttle control.

* Lockheed C5A:
  cargo rails and restraint systems including aerial delivery system, thrust reverse controls.

Manufacturing:

At the company's North Wales facilities, space devoted to the Aerospace division totals 80,000 sq. ft. In addition, a new building is currently under construction at that site which will be completed about mid-1967, providing another 30,000 sq. ft. The division is currently operating at 85% capacity.

Distribution:

Products of the division are marketed through a sales force of eight sales engineers who are geographically based in the major market areas of the country. Most sales are made to original equipment manufacturers, however, approximately 20% of the volume is sold directly to the ultimate user for spares and retrofit. Foreign sales are handled through representatives.

Marketing Advantages:

In the field of mechanical controls, Teleflex systems most commonly compete with cable-and-pulley or rod-and-bell-crank systems. Most design analyses have indicated that the company's systems are up to 60% lighter and drastically smaller than most competitive systems. In addition, the company believes that these other factors are also contributing to growing acceptance of the Teleflex units for aerospace applications:

* Efficiency under extreme temperatures.
* Ability to reach otherwise inaccessible parts.
* Unusually high accuracy.
* Simplicity of installation.
* High endurance characteristics.
* Resistance to vibration.
* Minimum maintenance
* Minimum weight.

MARINE CONTROLS OPERATIONS

THE MARKET FOR MARINE CONTROL SYSTEMS:

Teleflex participation in the marine field consists of the manufacture of steering systems, engine control systems, gauges and instrumentation. Although a minor portion of these products have application to large-scale ships, the major market is the nation's growing fleet of small-to-medium sized pleasure boats.

Over-all, the pleasure boat manufacturing and repair field had sales estimated at $448 million in 1965, and its growth rate indicates an increase to $510 million in 1967, according to industry authorities. Within this industry, the market for control systems and instruments is estimated at about $30 million for last year, up approximately 20% from 1965. Industry officials project that this market should grow at a compound 10% annually for the next five years.

There are two sectors of this market: sale of original equipment to the boat building companies; and sale of branded proprietary products to boat equipment dealers for the boat-owner's upgrading of his own boat's control system.

Original Equipment:

Few U.S. industries are benefiting from the nation's leisure time explosion as much as the field of pleasure boating. With the improvement of harbor facilities, safety measures and other facets throughout the country's lakes, rivers and seacoasts, boat owning has become a tempting sport to the average American's discretionary income.

According to industry figures, the number of pleasure craft owned by Americans has grown as follows:

1961	7,175,000
1962	7,468,000
1963	7,678,000
1964	7,700,000
1965	7,865,000
1966	8,074,000
1967 est.	8,250,000

Industry sources indicate that 40,370,000 Americans participated in recreational boating during 1966. The magnitude of the boating industry can be measured in the amount of money spent at the retail level for boats, services, insurance, fuel, mooring and launching fees and boat club membership over the past ten years:

(In Millions of Dollars)

1957	$1,912
1958	2,085
1959	2,475
1960	2,525
1961	2,340
1962	2,506
1963	2,581
1964	2,605
1965	2,683
1966	2,817
1967 est.	2,920

One aspect of this trend is the average owner's desire to upgrade -- to own a boat that has higher performance. And, as performance increases, so does the necessity for more sophisticated power plants, controls and instrumentation.

Today, the average sports boat equipped with a 90 h.p. outboard engine requires:

* One Teleflex type engine control and one Teleflex type steering system valued at $150.00 retail.

* Four control panel gauges, valued at $65.00 to $70.00.

By contrast, the average boat equipped with dual inboard engines of 125 h.p. each, requires:

* Two Teleflex type engine controls and one Teleflex type steering system valued at $210.00 retail.

* Eight to ten control panel gauges, valued at $130.00 to $140.00 retail.

The Aftermarket:

Replacement of existing boat steering and control equipment is estimated at $2.5 to 3 million, at manufacturers' cost, currently.

On the same principle as the continual upgrading of boats through new-craft purchase, the substitution of more sophisticated units in place of lesser ones has been a strong trend.

These replacement units are branded, consumer-advertised products that are marketed through about 20,000 retail boat dealers and boat repair outlets. Considering the 8,074,000 pleasure craft currently in use in the U.S. it appears probable that the replacement unit market will continue to expand in proportion to the over-all industry growth.

TELEFLEX COMPETITIVE POSITION:

For several years, Teleflex has enjoyed a strong position in the original and replacement markets for steering controls, and an important role in the markets for engine controls and instrumentation.

Until the recent past, Teleflex sales were made primarily to boat dealers and equipment distributors, which created an exaggerated seasonal pattern of volume. But in the last two years, boatbuilders have accounted for a far larger portion of Teleflex sales, as the company reputation in the original equipment field has grown in stature. Today, OEM sales represent the majority of volume. Among the manufacturers that are regular users of Teleflex units are Glastron, Thunderbird, Larson, Starcraft, Pacemaker, Trojan and numerous other leading producers.

Products:

Steering Systems:

These include a steering wheel, a dash mounting piece, a control head which fits behind the dash, and the steering cable which runs from the control head to the rudder where fittings attach the system.

These systems are produced by the company in a wide range of types and sizes, meeting the needs of virtually any kind of pleasure craft. Teleflex power steering is used on two station houseboats and large cruisers, while a new mechanical system was introduced in 1967 for small outboards. The standard system is used on inboard/outboard boats.

This line of products represents the major portion of the company's marine sales at the present time. It has six competitors in the field, including firms such as American Chain & Cable, Morse Instrument Co., Marmac, Inc. and Detroit Marine. Trade estimates indicate the Teleflex share ranks number one in steering controls for original equipment, and number one or two in the replacement market.

The wholesale price of a complete steering system can range from $30.00 to $400.00.

Engine Controls:

Engine controls systems consist of a control for one or two engines for single or double action, the cable to the throttle or clutch of the engine and the appropriate mounting kits. A single action control is best described as one handle which operates with either clutch or throttle. A single lever control operates both clutch and throttle from one handle. Certain engine controls will have two handles and operate clutch and throttle on two engines. Other engine controls will have one handle and operate both clutch and throttle on one engine. Single action controls can have one or two handles which operate only one function.

A new line of inboard controls has been introduced by Teleflex and will be sold for the first time during 1967 for the 1968 boating season. These controls compliment the existing line of outboard controls.

Engine control cables are sold in large quantities to boatbuilders, engine manufacturers and distributors for the replacement market.

In this field, Teleflex has three major competitors: Morse Instrument Co., Marmac, Inc. and engine manufacturers who package their own controls. Its share ranks third in the original equipment market and second in the replacement market, according to trade authorities.

Instrumentation:

This third area of marine activity involves the sale of various control gauges for dash panels, again for both original and replacement use.

The Teleflex instruments marketed include fuel gauges, amp meters, oil gauges, tachometers, fuel flowmeters and speedometers. They are sold separately, and also as packaged in one of several styles of full instrument panels.

These products are priced from $5.00 for a temperature gauge, for example, to $60.00 for a tachometer, and $60.00 to $120.00 for a fully-packaged instrument system and panel assembly.

Competitors in this field include the engine manufacturers themselves and also Stewart Warner, Air Guide, Aqua Meter, Sun Electric and numerous small manufacturers. In the instrument market, the Teleflex share ranks approximately number three for original equipment and number four in replacement units.

Manufacturing:

Teleflex marine products are manufactured at the company's Boyertown (cables and controls) and Ongaro (gauges) plants. Square footage devoted totals nearly 40,000 sq. ft. Production capacity was last expanded in 1965, and currently management estimates that output is running at 75% of maximum capacity.

Distribution:

To the original equipment market, the company sells marine products through a sales force of 20 sales representatives, based in 20 cities. In the aftermarket, the sales force consists of 20 men, covering about 400 distributors in 48 states, plus 12 foreign countries. Warehousing is handled by the distributors stocking nationally for the aftermarket. Teleflex instruments for the original equipment market are shipped to a national network of 200 boatbuilders.

Marketing Advantages:

Management believes that these factors have an important bearing on the company's ability to win a larger share of the marine controls market:

* Heavy stress on quality of basic materials that can withstand unusual rigors of marine use.

* Concentration of quality control standards in precision manufacture of the units.

* The affiliation of Donzi Marine (see later section) as a prestige name in high performance boats, and use of Donzi facilities for testing of marine controls and instruments.

* A well balanced engineering staff capable of supporting boatbuilders in their specific requirements.

* A consistent flow of new or improved products, such as the following which have all been introduced in the last six months.

* A line of inboard engine controls, designed for quality boat-builders.

* A new inboard engine cable, giving more reliability and far better performance than anything comparable in the industry.

* Power steering to provide safe, fingertip control for single and dual station cruisers and houseboats.

* A new mechanical steering system aimed at replacing rope and pulley steering on all outboard boats using engines under 50 h.p.

AUTOMOTIVE PRODUCTS OPERATIONS

THE MARKET FOR AUTOMOTIVE CONTROLS:

In the automotive field -- as in marine activities -- Teleflex markets high precision units to both the original manufacturers and to the aftermarket.

The products consist of a wide range of flexible cable controls for more than 40 applications on automobiles and a line of fuel flowmeters and tachometers, which are more recent additions to the company's capabilities.

Original Equipment:

While the company has long been a supplier of the familiar push-pull "choke" cable control to Detroit automakers, it has also helped to pioneer the far wider use of these systems for the control of other automobile mechanisms. These include vent controls, trunk releases, air conditioning and heat controls, etc.

As with other fields, the growth opportunity for sale of flexible cable controls hinges on its advantages over alternate forms of control, primarily electrical. These advantages, once again, are primarily low cost and basic reliability. Thus, as the sophistication of automotive components and convenience features continues to widen, so does the potential for further cable application.

In 1958, the average car required two separate cable control systems. Today, the number of applications average four or five per car. Moreover, the degree of complexity has increased. The price (to the car maker) of the average push-pull system in 1958 was about 15 cents. Currently it averages about 40 cents, an increase of 170%.

As is already well known to most analysts, over-all auto production has increased from approximately 5.8 million cars per year average in the 1954 through 1959 period to an average of 7.5 million cars per year in the period 1960 through 1966. Industry projections are that 10 million car-years may be expected in the 1970's, despite continued year-to-year fluctuations that have been traditional in the field.

Most sources agree that the total current volume of flexible cable controls sold to Detroit is about $25 million annually.

The Replacement Market:

The sale of flexible cable controls in the aftermarket is a relatively small business, largely because the original equipment seldom wears out. In effect, Teleflex is not directly in this market inasmuch as most of its cable used in replacement is purchased by the automobile owner from the dealer who in turn is supplied by the original manufacturer.

The company's major participation in the aftermarket, however, involves the manufacture and marketing of special dash panel instruments that can be added to any existing car model to provide the driver with extra information. These are principally two lines:

* Tachometers -- which gauge engine revolutions-per minute.

* Fuel flowmeters -- which gauge the gallons per hour being used by an engine.

The market growth and potential of these instruments centers upon the American motorist's increasing interest in his car, its performance and precise information about that performance. This trend has been dramatized by the emergence of the "domesticized" sports car, and the temptation of standard-model owners to give their cars sports-car performance and/or instrumentation. According to industry sources the sale of these "add-on" instruments has increased substantially. Factors pointing toward further interest by motorists include:

* There is a growing usage in actual reading gauges, rather than the use of "idiot" lights, due to the trend toward higher performance engines.

* There is a growing trend in the popularity in sports cars or conventional cars with sport car equipment.

TELEFLEX COMPETITIVE POSITION:

Products:

Flexible Cable Controls:

Teleflex is a well-established supplier of these systems to Ford, General Motors and Chrysler Corporation. The systems vary in sophistication according to the task performed. Some examples of those tasks are:

* Heating and air-conditioning controls.

* Air vent controls.

* Hood and trunk releases.

* Accelerator cables.

* Speedometer cables.

Competitors in this market include American Chain & Cable, Shakespeare Products, Milwaukee Spring and Weatherhead, Inc. Trade sources rank Teleflex's share as number three in the field.

Instruments:

The company's two primary units are:

* Tachometers -- which list for $29.50 and up; mount on any auto dash panel and blend compatibly with existing decor. The company offers a line of four units which cover the full range of motorist needs, including RPM measurement accuracy to within 1%, available in 6,000...8,500...and 10,000 RPM readout. The units are fully transistorized.

* Fuel Flowmeters -- which list at $39.95 and up. A major improvement over the standard vacuum gauge, the Teleflex flowmeter shows exact mileage per gallon over any terrain and under any driving conditions. Available for mounting on all dash panels, the meters can save a motorist up to 30% on gasoline usage, according to claims, and also indicate engine trouble before otherwise apparent.

Designed primarily as aftermarket products, the Teleflex instruments have gained wide popularity among the sports car public and among regular motorists as well. Competitors include Stewart Warner, Sun Electric and others in tachometers. Trade sources estimate that the Teleflex share in this market ranks number three. Teleflex has no significant competition in fuel flowmeters.

Manufacturing:

Until recently, all production for this division was conducted in the Boyertown, Pennsylvania plant. In 1966, a new facility in Van Wert, Ohio was put into operation. Total space devoted to the division's manufacturing is now 38,000 sq. ft. Management estimates that normal operations are about 50% of total capacity (currently off somewhat due to lower automobile production) and will reach 70% or more by year-end.

The new Van Wert facility was designed to be the main source of Teleflex products for passenger automobiles. The enlarged facilities of the Troy plant are used for sales, engineering and production of prototype parts.

One very significant element is the company's increasing capabilities in plastics technology. This has proven valuable in the development of more effective controls for Detroit at lower cost and has enhanced the Teleflex OEM position. Teleflex maintains an R&D office in Troy, Michigan (a suburb of Detroit) for continual work in those lines.

Distribution:

The company's Troy sales office directs all OEM marketing activity. It is staffed by four sales engineers and a sales manager.

To reach the aftermarket, Teleflex has a sales force of three men, in contact with approximately 100 automotive equipment distributors that serve more than 400 retailers in 50 states. Teleflex also sells Sears Roebuck & Co., Montgomery Ward & Co., and J. C. Penny Co., Inc.

Marketing Advantages:

Management believes that possibilities of gaining a greater share of the automotive equipment field rest upon these factors:

* Teleflex is an innovator in the areas of new products, materials and technology. It has been a leader in plastic products development and combining plastics and metals.

* Teleflex takes new ideas and products to the manufacturer, rather than just being an order taker bidding on specified equipment.

BOAT MANUFACTURING OPERATIONS

THE MARKET FOR PLEASURE CRAFT:

As detailed in the chapter on the Marine Controls Market, the demand for pleasure craft in the U.S. has evidenced considerable strength in the past several years, and the industry looks toward further rapid growth.

However, this broad outlook does not apply, in direct relationship, to the Teleflex boat-manufacturing activity: Donzi Marine.

There are three key reasons for this difference:

* Donzi has long held the reputation as one of the foremost, if not the leading, names in high performance speedboats. Handcrafted with extreme care, it has been built in only limited numbers in recent years, and Teleflex management has continued this policy since the division was acquired in 1965.

* Although Donzi is entering the pleasure-cruiser field currently, most of its boats are in a performance category not normally sought by the consumer. They are designed for maximum effort competition rather than standard pleasure boating. The market for boats of this caliber, at the premium price required, is small and perhaps not destined to expand at a rate parallel to the industry.

* Because Teleflex sales to other boat builders represents a major market for marine controls, an aggressive expansion of Donzi into the more general areas of pleasure craft might create industrial relations problems.

DONZI MARINE COMPETITIVE POSITION:

Products:

The Donzi division manufactures a line of 9 models, all in the higher priced ranges of competition-craft. These models are:

NAME	LIST PRICE	SIZE
* F-14	$ 3,600.00	14 ft.
* 14 Foot Baby	3,600.00	14 ft.

* Donzi 16 Sport	$ 4,900.00	16 ft.
* 18 2 + 3	5,400.00	18 ft.
* St. Tropez	6,500.00	19 ft.
* Hornet	8,900.00	19 ft.
* Donzi 7 Meter	9,000.00	23 ft.
* Sportsman	20,000.00	28 ft.
* Donzi 28 Ocean Racer	30,000.00	28 ft.

In 1966, a 28-foot sports cruiser was added to the line, which brought the Donzi range closer to the pleasure boat category. This model is a cruiser version of the famed Donzi 28 Ocean Racer. Its price is $20,000.00.

Also during the year, a new 14 foot boat was introduced in two models. Priced at $3,600.00, it is available in a three seat sport version and as an open fishing boat.

Since the beginning of 1967, a 7 meter Day Cruiser was added, after successful development late in 1966. Public and professional interest evidenced at the Miami Boat show in February, 1967 was encouraging.

Competition in the Donzi boat category is largely from Formula Boat Co. and Bertram Yacht Co.

Manufacturing:

All Donzi boats are manufactured at North Miami Beach, Florida. The facilities total 25,000 sq. ft. and include special production and actual water testing facilities.

Distribution:

Donzi boats are distributed through a network of 75 boat dealers, operating in 48 states and 10 foreign countries. The division's sales force consists of five men.

Marketing Advantages:

Although the high performance boat category may not expand in sales commensurate with boating industry growth, management feels that Donzi volume should progress at a possible compound average of 15 to 20% per year for these reasons:

* Good and growing acceptance of high performance boats.

* Performance -- Donzi Boats have received excellent publicity and promotion as a result of their racing record -- have won most of the major awards.

* Excellent dollar value. Industry experts pick Donzi as the "Cadillac" of boating.

TELEFLEX ACTIVITIES IN INDUSTRIAL CONTROLS

The company's experience in developing sophisticated controls for aerospace, automotive and marine markets has led it into other applications as well. Currently, successful development assignments have been accomplished for manufacturers of trucks, buses, heavy machinery, farm equipment and other products.

Essentially, the same merits that have won the flexible cable control an important role in the earlier fields are now stimulating demand in these more diverse areas.

Examples of Teleflex developments for industrial application include:

* Controls for a mechanized salt spreader.
* Controls for the heavy-duty braking system of a bus.
* Controls for actuating tractor accessories.
* Controls for heavy-duty trucks.
* Controls for industrial machinery.

One of the most important applications, in terms of volume, has been the company's development of remote window operators, for use primarily in schools and hospitals. This system and similar ones, as a result of more management attention and 1966 sales efforts, are beginning to attract wide interest among architects and designers.

Management believes that greater emphasis on marketing activity in this division can tap a broad range of sales opportunities. Projections are for a sales increase of more than 25% this year and a steady expansion of volume in the years thereafter. It is hoped that these efforts can secure fresh markets for flexible cable control systems that may one day equal or surpass the three major markets already established.

TELEFLEX ACTIVITY IN PROTECTIVE CHEMICAL COMPOUNDS

The Teleflex operations in the field of chemical coatings originated when a company research unit developed a unique protective compound in 1960. Named SermeTel, it was designed to protect jet engine fan blades against corrosion. When applied as a thin coating to metals, the compound actually permeates the metal itself, forming an absolute bond. After extensive testing by the company and by aviation authorities, it was successfully marketed for that purpose.

Essentially a spray-on and heat curing sequence, the compound effectively fights the corrosive effects of jet engine operation and lengthens engine life. In this form, the compound is known as SermeTel (Type W).

Used in this application for military jet engines, the Type W coating was credited with saving the government more than $1.3 million, by serving as a replacement for an expensive alloy in J 79 engines.

More Recent Applications:

In 1966, management directed stepped-up efforts to secure further applications for the SermeTel family of compounds in industrial and consumer products. Among the uses now being explored for large scale volume are:

* Protection of metal components in furnaces and heaters.
* Ceramic cements.
* Glass sealants.
* Inorganic caulking compounds.
* Case hardening.
* High temperature ducting.

The Product:

SermeTel (Type W), an inorganically (ceramically) bonded aluminum coating, was designed for the prevention of heat scaling, oxidation, salt corrosion and protection from corrosion due to exposure to extremely corrosive environments.

The compound excels particularly where a combination of corrosive conditions will be encountered; such as, jet engine applications where engine parts are constantly exposed to high engine heat when flying followed by conditions of salt water, high humidity, and salt fog due to aircraft carrier duty and sea coast operations.

An interesting case history is the use of SermeTel (Type W) for various gas turbine engine applications. Combustion casings, compressor rear frames, compressor casings and forward bearing support housings of several jet engines are protected against cyclic heat scaling, high humidity and salt corrosion as well as engine vibration and thermal shock. The engine sections are used in helicopters hovering over coastal regions and in planes and other craft that see duty at sea coast airfields and on aircraft carriers. Two coats of SermeTel (Type W) at a total coating thickness of 0.0015 to 0.0030 inch are required to withstand accelerated testing to a minimum of 250 hours of 5% salt spray after being subjected to 100 hours at temperatures up to 1200°F.

Characteristics:

The product provides superior corrosion resistance for iron, steel, and heat-treated stainless steel alloys. It consists of an aqueous ceramic binder solution with aluminum filler material that may be sprayed onto almost any clean, roughened substrate.

The recommended thickness of application for maximum corrosion protection is two to four mils applied in two or three layers. Coatings must be cured between layers.

SermeTel (Type W) will withstand the following environmental conditions:

* Salt spray.
* High humidity.
* Vibration.
* High temperature to at least 1200°F.
* Low temperature.
* Abrasion and erosion.

Coatings traditionally available fail to meet all of the above standards because most binders used are organic. At high temperatures, particularly those found in engine applications, organic binders decompose or disintegrate. Even though deposits may be left on the surface, parts can no longer be exposed to salt atmospheres without corroding.

SermeTel (Type W) coatings are completely inorganic. Two to three coats with a total thickness of two to four mils on any type of iron or steel alloy or heat-treatable stainless steel will withstand 3000 hours in either 5 or 20% salt spray testing. Two coats will survive 1000 hours when sprayed to two mils total thickness.

Physical and Mechanical Properties of SermeTel:

* ABRASION RESISTANCE:
Abrasion resistance is good and compares favorably to electroless nickel. It has good fly ash abrasion resistance as encountered in the power plant industry, and excellent abrasion resistance when exposed to inlet particles of high speed jet aircraft.

* ADHERENCE:
Adherence is excellent. The cured film forms a continuous coating having a tight bond to the base metal. The bond may be tested non-destructively by applying the standard military and commercial tape tests. Bend tests are also a good check for adherence.

* FLEXIBILITY:
The cured coating is capable of being bent 180° upon itself over a mandrel with a radius of fourteen times the metal thickness without cracking, peeling, powdering, or otherwise injuring the coating.

* EROSION RESISTANCE:
The coating offers good resistance to the standard dust and sand test. It gives fair resistance to dry grit or wet vapor blasting. It offers good resistance to vibratory tumbling and similar processes which tend to burnish the coating to a high metallic luster.

* CORROSION RESISTANCE:
Application to ferrous alloys will greatly improve resistance to the following: Rural, industrial, marine, nuclear atmospheres; sea water; many food-stuffs; organic acids and anhydrides; alcohols; ammonia and ammonium compounds; essential oils; nitroparaffins; hydrogen peroxide; neutral or nearly neutral fresh waters; aldehydes; esters; ketones; all petroleum derivatives; amides; all oil derivatives; many neutral aqueous inorganic salt solutions.

* ELECTRICAL PROPERTIES:
Because of its ceramic nature, a four mil coating will have a dielectric strength up to about fifty megohms at 500 volts. When the coating is burnished, however, or pressure applied to the surface of a thin film, surface conductivity is readily obtainable and dielectric breakdown will probably occur. If the coated surface is exposed to temperatures in excess of 1000°F, coating becomes completely conductive. Once this phenomenon has occurred, it is conductive at all temperatures.

* THERMAL SHOCK RESISTANCE:
The coating gives excellent thermal shock resistance. The cured coating can be repeatedly heated and soaked at temperatures up to at least 1200°F and shocked in air without adversely affecting the coating.

* HEAT RESISTANCE:
The coating can be subjected to the maximum operating temperature up to at least 1200°F for prolonged time periods. The coating will protect the base metal from heat oxidation. In temperatures of more than 900°F, however, the coating may go through a phase change and become less malleable than afforded by the lower curing temperatures and application temperatures up to 900°F. However, in most instances, this elevated temperature will improve the corrosion resistance characteristics.

* MACHINEABILITY:
Coated parts can be rolled, peened, or otherwise burnished without causing flaking or adversely affecting the coating properties. Shearing, drilling, cutting and other machining operations will not cause the coating to flake beyond the machined area and can be readily repaired in the area that has been machined.

* SHELF LIFE:
Once cured, the coating has an infinite shelf life and generally improves with age.

Manufacuturing:

The production and continued research work in the coating field is conducted at the company's SermeTel division in its North Wales, Pennsylvania facilities. Capacity is being expanded rapidly. The R&D laboratory is staffed by chemists, whose major programming is directed toward the development and testing of new applications.

Distribution:

SermeTel products are marketed through a sales organization consisting of three full time sales engineers and also assisted by the eight aerospace field engineers and sales office.

OUTLOOK AND MANAGEMENT

While continuing to penetrate the jet engine market, management expects that SermeTel will expand its range into a multi-line structure in 1967 and establish strong footholds in at least a half dozen major new markets by next year.

Teleflex has assembled a management team with a wide variety of industrial experience. Most of its key executives are below the age of 45.

Officers:

CAMERON CHISHOLM, Chairman of the Board
A graduate of Osgoode Law School in Toronto, Mr. Chisholm practiced law for fourteen years with the firm of Bicknell, Cameron & Chisholm. In 1940, he became President of Teleflex Ltd. in Toronto. With the establishing of Teleflex Incorporated in Philadelphia in 1943, Mr. Chisholm assumed the corporation presidency. He was elected Chairman of the Board in 1959, seven years after the corporation moved to North Wales, Pennsylvania.

M.C. CAMERON CHISHOLM, JR., President
Mr. Chisholm began his Teleflex career with the Engineering Department in 1951, following his graduation from Massachusetts Institute of Technology. He served as a Production Manager from 1953 to 1957, and as Vice President of Sales until 1959, when he was elected President of Teleflex Incorporated.

R.P. BARNARD, Vice President & General Counsel
Mr. Barnard received his Bachelor of Science Degree in Mechanical Engineering from the University of Michigan in 1947, and went on to George Washington University Law School, from which he was graduated in 1950. He was a Patent Attorney with General Motors until 1961, when he opened his own law firm, in which he is still a partner. He was first associated with Teleflex Incorporated as Patent Counsel in 1961; he became a Director one year later. Mr. Barnard was elected a Vice President and appointed General Counsel in January, 1967.

L.K. BLACK, Vice President/Commercial Products Division
A graduate of McGill University of Montreal in 1952, Mr. Black was employed at Marsh & McLennon, Inc. in New York for six years before joining Teleflex. His first Teleflex position was that of Assistant Manager for Contracts Administration and Internal Sales. A series of advances culminated in his being elected a Vice President and General Manager of the Commercial Products Division in August, 1963.

W.B. CONRAD, Vice President/Automotive Division
Mr. Conrad began his career with the Doall Company in Detroit after studying Engineering at the University of Minnesota. Building sales and distribution of saw blades and sawing machinery in Michigan, Mr. Conrad was appointed President of Doall in 1941. Seven years later, he opened and served as President of his own company, selling and distributing machine tools and plastics. His first association with Teleflex, Inc. was as a consultant in 1962; he joined the company's automotive division shortly thereafter, and has been a Vice President since June, 1966.

E.W. DORAN, Vice President & Controller
After graduating from the University of Pennsylvania evening school in 1943, Mr. Doran worked for Radio Corporation of America for eight years, eventually becoming Manager of Accounting for RCA Services, a subsidiary. He has been with Teleflex since 1951, has served as Assistant to the President, and has been Vice President and Controller since September 1963.

L.E. HATCH, JR., Vice President/Aerospace Division
Mr. Hatch's business career began as an accountant in 1950, following his graduation from Ursinus College with a Bachelor of Arts Degree. His first association with Teleflex, in 1958, was as Staff Assistant to the Controller. He advanced to Accounting Manager, Controller and Assistant Secretary and Assistant Treasurer before being elected to his current position.

A.J. KOMPANEK, Vice President/Washington Office
Mr. Kompanek attended Harvard College, Iowa State University and the Harvard Graduate School of Business Administration. His degrees include a BSME, BSIE and MBA. After World War II, during which he served as a Naval officer, Mr. Kompanek became Assistant Managing Engineer for Dennison Manufacturing Company. He moved to Teleflex in 1959 as Assistant Chief Engineer, became Chief Engineer in 1960 and a Vice President in 1963.

A.J.T. STURROCK, Vice President, Secretary & Treasurer
Educated in England, Mr. Sturrock spent ten years in Montreal as a Commodities Broker before joining Teleflex in 1941. He served as Secretary & Treasurer until 1954, when he was appointed to his present office.

Board of Directors:

R.P. BARNARD, Esq., Partner, Barnard McGlyn & Reising, Birmingham, Michigan.

CAMERON CHISHOLM, Chairman of the Board, Teleflex Incorporated, North Wales, Pennsylvania

M.C.C. CHISHOLM, JR., President, Teleflex Incorporated, North Wales, Pennsylvania

J.C. CLEMES, Toronto, Canada

R.C. DOBSON, Financial Manager, Teleflex Incorporated, President, Teleflex (Canada) Ltd., North Wales, Pennsylvania

JOHN H. REMER, Vice President, Laird & Company Corporation, Wilmington, Delaware

JOHN STEWART, President, Baxter & Stewart, Inc., Vice President, Cooke & Bieler, Inc., Philadelphia, Pennsylvania

JOHN TYSON, Partner, Hutchinson, Rivinus & Co., Philadelphia, Pennsylvania

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